

OCCUPATIONAL INJURY AND DISEASE IN ALBERTA

Drilling of Oil and Gas Wells 1994 to 1998



Upstream
Oil and Gas

Subsector #4

Alberta
HUMAN RESOURCES
AND EMPLOYMENT

July 1999

*Information Services
Alberta Human Resources
and Employment
2nd Floor
10868-99 Avenue
Edmonton, Alberta
T5K 0G5*

*Phone: (403) 427 - 8531
Fax: (403) 422 - 5070
E-Mail Address:
commshare@lab.gov.ab.ca
Alberta Human Resources
and Employment website:
<http://www.gov.ab.ca/hre>*

TABLE OF CONTENTS

1. Sub-Sector Description	1
3. LTC Rates & Duration Rates	3
3.1 LTC Rates by Size of Employer:1998	3
4. Analysis of The Lost-Time Claims	4
4.1 Nature of Injury	4
4.2 Part of Body Affected	5
4.3 Source of Injury	7
4.4 Type of Event	8
4.5 Duration of Disability	9
5. Characteristics of The Injured Worker	10
5.1 Occupation of Injured Worker	10
5.2 Age of Injured Worker	11
5.3 Length of Time Employed	11
5.4 Gender of Injured Worker	11
6. Number of Employers that Received/Renewed a CoR in 1998	12
7. Cost of Claims, Payroll and Premiums	12
8. Occupational Fatalities	13
9. OHS Investigated Occupational Fatalities: 1993-1998	14
Appendix A: Terms, Definitions, and Formulas	16
Appendix B: Upstream Oil and Gas 1998 Industry Codes	17

1. Sub-Sector Description

Sub-Sector # 4: Drilling of oil and gas wells

Drilling of oil and gas well (Industry # 9600)

Oil well drilling is performed by independent drilling companies contracted directly to oil companies. Oil companies will coordinate the drilling program and may provide on site direction and supervision, but do not become physically involved in operating the drilling rig.

The drilling of gas and oil wells is carried out by small crew, including a rig manager (tool push), driller, derrick hand, motor hand, floor hands (roughneck) and lease hands. Drilling can be round-the-clock operations using shift workers

The drilling of gas and oil wells involves the use of large heavy duty rigs or derricks that may be capable of drilling several thousand feet into the earth. The equipment is set up at a predetermined location and drilling commences for two to four weeks. Considerable time is spent setting up the equipment; however, this is considered part of the drilling operations. Also included is the activity of levelling the drilling rig. This involves the use of heavy hydraulic jacks (50 to 100 tons) to raise or lower the oil derrick prior to drilling. Heavy timbers are used to stabilize where necessary. Due to tremendous torque or twisting pressure exerted by the drill stem, it is necessary that the rig be level.

Blowout control and well fire fighting are also in this industry. The procedure necessary to cap a wildcat well varies. Sometimes a blowout can be brought under control by pumping mud or cement to stop the flow, or replacing valves on the blowout preventer. If a well catches fire, the fire must be extinguished before the well can be capped. A common method is to use explosives to cut off the fire's oxygen supply. Employers that are hired to set explosives for this purpose are covered in this industry.

**IMPORTANT NOTE CONCERNING THE FOLLOWING
PAGES**

**THE PAGES WHICH FOLLOW HAVE BEEN FILMED
TWICE IN ORDER TO OBTAIN THE BEST
REPRODUCTIVE QUALITY**

**USERS SHOULD CONSULT ALL THE PAGES
REPRODUCED ON THE FICHE IN ORDER TO OBTAIN
A COMPLETE READING OF THE TEXT.**

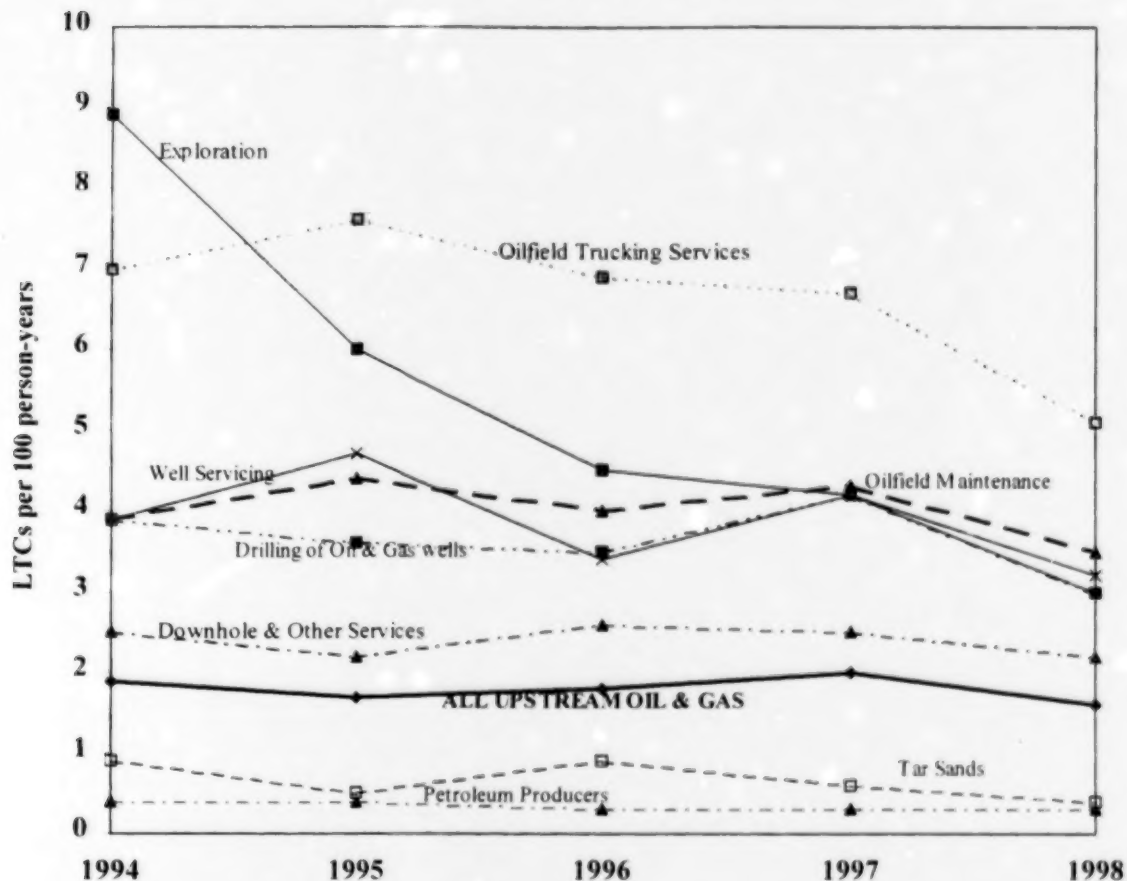
**REMARQUE IMPORTANTE CONCERNANT LES
PAGES QUI SUIVENT**

**LES PAGES SUIVANTES ONT ÉTÉ REPRODUITES EN
DOUBLE AFIN D'AMÉLIORER LA QUALITÉ DE
REPRODUCTION**

**LES UTILISATEURS DOIVENT CONSULTER TOUTES
LES PAGES REPRODUITES SUR LA FICHE AFIN
D'OBTENIR LA LECTURE DU TEXTE INTÉGRAL**

2.

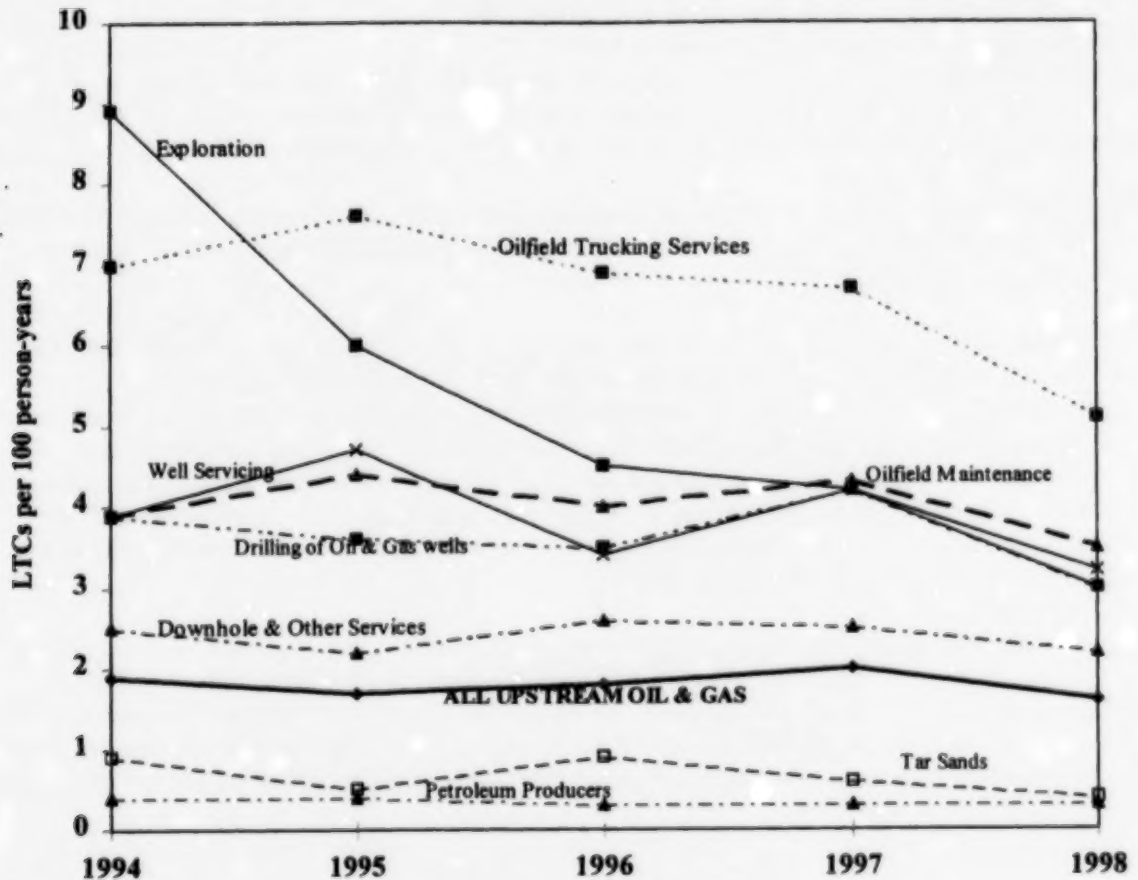
Lost-Time Claim Rates All Upstream Oil & Gas Subsectors Alberta 1994-1998



Lost-Time Claim Rate	1994	1995	1996	1997	1998
All Upstream Oil and Gas	1.9	1.7	1.8	2.0	1.6
Exploration	8.9	6.0	4.5	4.2	3.0
Oilfield Maintenance and Construction	3.9	4.4	4.0	4.3	3.5
Well Services with Service Rigs	3.9	4.7	3.4	4.2	3.2
Drilling of Oil and Gas	3.9	3.6	3.5	4.2	3.0
Downhole & Other Oilfield Services	2.5	2.2	2.6	2.5	2.2
Tar Sands	0.9	0.5	0.9	0.6	0.4
Petroleum Producers	0.4	0.4	0.3	0.3	0.3
Oilfield Trucking Services	7.0	7.6	6.9	6.7	5.1

2.

Lost-Time Claim Rates All Upstream Oil & Gas Subsectors Alberta 1994-1998



Lost-Time Claim Rate	1994	1995	1996	1997	1998
Exploration	8.9	6.0	4.5	4.2	3.0
Oilfield Maintenance and Construction	3.9	4.4	4.0	4.3	3.5
Well Services with Service Rigs	3.9	4.7	3.4	4.2	3.2
Drilling of Oil and Gas	3.9	3.6	3.5	4.2	3.0
Downhole & Other Oilfield Services	2.5	2.2	2.6	2.5	2.2
Tar Sands	0.9	0.5	0.9	0.6	0.4
Petroleum Producers	0.4	0.4	0.3	0.3	0.3
Oilfield Trucking Services	7.0	7.6	6.9	6.7	5.1

3. LTC Rates & Duration Rates

Drilling of Oil & Gas Wells

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
94	58	\$2,184,260	6,578	15,629	238	254	3.9
95	61	\$1,618,023	4,876	9,831	202	175	3.6
96	66	\$1,986,527	5,700	10,747	189	197	3.5
97	79	\$2,661,066	6,871	13,995	204	289	4.2
98	81	\$2,221,502	6,077	11,475	189	182	3.0

3.1 LTC Rates by Size of Employer:1998

Size of Employer	# of Accounts	LTCs	Person - Years	LTC Rate
A: 0< PYs <=1	23	N/A	9	N/A
B: 1 < PYs < 5	6	N/A	17	N/A
C: 5 <= PYs < 10	3	N/A	22	N/A
D: 10 <= PYs < 20	10	9	137	6.6
E: 20 <= PYs < 40	8	19	234	6.1
F: 40 <= PYs < 100	12	32	723	4.4
G: PYs >=100	13	121	4,934	2.5
H: Invalid	6	1	0	N/A
Total	81	182	6,077	3.0

4. Analysis of The Lost-Time Claims

4.1 Nature of Injury

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
FRACTURE & DISLOCATION							
FRACTURE	73	40	52	87	53	305	27.8
OTHER NATURE	3	6	4	4	1	18	1.6
SUBTOTAL	76	46	56	91	54	323	29.4
SPRAIN, STRAIN	55	36	34	72	41	238	21.7
BRUISE, CONTUSION, CRUSHING	49	30	26	42	25	172	15.7
OTHER INJURY							
AMPUTATION, ENUCLEATION	7	5	8	8	12	40	3.6
OTHER NATURE	5	5	16	22	14	62	5.7
SUBTOTAL	12	10	24	30	26	102	9.3
CUT, LACERATION, PUNCTURE	15	8	14	10	9	56	5.1
OTHER DISEASE							
DISEASE OF NERVOUS SYSTEM	3	6	9	7	3	28	2.6
OTHER NATURE	2	3	8	8	4	25	2.3
SUBTOTAL	5	9	17	15	7	53	4.8
BURN, SCALD-THERMAL	8	8	7	5	8	36	3.3
MULTIPLE INJURIES	9	7	2	5	2	25	2.3
ALL OTHER NATURES, UNS	25	21	17	19	10	92	8.4
Total	254	175	197	289	182	1,097	100.0

4.2 Part of Body Affected

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
BACK							
LUMBAR (LOWER BACK)	33	20	7	12	4	76	6.9
OTHER PART	20	9	29	38	28	124	11.3
SUBTOTAL	53	29	36	50	32	200	18.2
FINGER(S)	38	26	32	34	34	164	14.9
LEG(S)							
KNEE	18	12	10	22	10	72	6.6
LOWER LEG	7	4	10	11	9	41	3.7
OTHER PART	7	2	4	10	5	28	2.6
SUBTOTAL	32	18	24	43	24	141	12.9
OTHER TRUNK							
SHOULDER(S)	10	10	4	12	8	44	4.0
HIP(S)-INCLUDES PELVIC ORGANS	9	4	11	8	4	36	3.3
CHEST-INCLUDES INTERNAL ORGANS	7	4	4	10	4	29	2.6
OTHER PART	4	4	3	7	3	21	1.9
SUBTOTAL	30	22	22	37	19	130	11.9
ANKLE(S) & FOOT(FEET)-NOT TOES							
FOOT(FEET)-NOT ANKLES OR TOES	20	11	9	12	10	62	5.7
ANKLE(S)	7	10	8	21	6	52	4.7
SUBTOTAL	27	21	17	33	16	114	10.4
WRIST(S) & HAND(S)-NOT FINGERS							
WRIST(S)	12	10	11	17	5	55	5.0
HAND(S)-NOT WRISTS OR FINGERS	12	6	7	7	7	39	3.6
SUBTOTAL	24	16	18	24	12	94	8.6

(CONTINUED)

Part of Body Affected (continued)

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
ARM(S) (ABOVE WRIST)	9	9	6	20	11	55	5.0
OTHER HEAD, NECK	10	4	11	14	12	51	4.6
MULTIPLE MAJOR BODY PARTS	5	10	8	8	7	38	3.5
FACE	12	4	2	7	3	28	2.6
ALL OTHER PARTS, UNS	14	16	21	19	12	82	7.5
Total	254	175	197	269	182	1,097	100.0

4.3 Source of Injury

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
SOURCE-UNS	56	47	63	76	44	286	26.1
METAL ITEMS-NEC							
PIPE AND FITTINGS	35	26	20	29	18	128	11.7
OTHER SOURCE	12	6	4	9	7	38	3.5
SUBTOTAL	47	32	24	38	25	166	15.1
WORKING SURFACES							
GROUND (OUTDOORS)	5	6	4	21	4	40	3.6
OTHER SOURCE	28	17	11	24	21	101	9.2
SUBTOTAL	33	23	15	45	25	141	12.9
BODILY MOTION	20	10	15	20	11	76	6.9
HANDTOOLS-UNPOWERED	19	4	15	22	16	76	6.9
HOISTING APPARATUS	23	15	6	9	6	59	5.4
MACHINES	6	8	5	19	12	50	4.6
BOXES, CONTAINERS	10	3	3	7	5	28	2.6
VEHICLES	6	6	3	6	2	23	2.1
ALL OTHER SOURCES	34	27	48	47	38	192	17.5
Total	254	175	197	289	182	1,097	100.0

4.4 Type of Event

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
STRUCK BY							
STRUCK BY FLYING OBJECT	2	5	19	31	12	69	6.3
OTHER TYPE	56	35	29	36	21	177	16.1
SUBTOTAL	58	40	48	67	33	246	22.4
CAUGHT IN, UNDER OR BETWEEN							
CAUGHT IN RUNNING/MESHING OBJECTS	2	8	2	7	7	26	2.4
CAUGHT BETW MOVING, STATIONARY OBJECT	22	3	.	.	.	25	2.3
OTHER TYPE	19	17	26	41	37	140	12.8
SUBTOTAL	43	28	28	48	44	191	17.4
OVEREXERTION							
LIFTING OBJECTS	15	10	10	14	14	63	5.7
PULLING/PUSHING OBJECTS	6	9	3	10	7	35	3.2
OTHER TYPE	11	4	3	10	8	36	3.3
SUBTOTAL	32	23	16	34	29	134	12.2
FALL FROM ELEVATION	25	19	20	43	18	125	11.4
FALL ON SAME LEVEL							
FALL ONTO OR AGAINST OBJECTS	11	5	9	10	6	41	3.7
FALL TO WALKWAY, WORKING SURFACE	9	6	3	12	6	36	3.3
OTHER TYPE	2	2	.	1	.	5	0.5
SUBTOTAL	22	13	12	23	12	82	7.5
BODILY REACTION							
REACTION FROM INVOLUNTARY MOTION	12	3	4	4	5	28	2.6
REACTION FROM VOLUNTARY MOTION	7	4	4	9	2	26	2.4
OTHER TYPE	1	4	6	7	4	22	2.0

(CONTINUED)

Type of Event (continued)

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
BODILY REACTION							
SUBTOTAL	20	11	14	20	11	76	6.9
TEMPERATURE EXTREMES							
HOT OBJECTS/SUBSTANCES	8	8	7	3	8	34	3.1
OTHER TYPE	.	1	2	.	1	4	0.4
SUBTOTAL	8	9	9	3	9	38	3.5
STRUCK AGAINST	9	2	5	8	5	29	2.6
ALL OTHER TYPES, UNS	37	30	45	43	21	176	16.0
Total	254	175	197	289	182	1,097	100.0

4.5 Duration of Disability

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
01 - 05 DAYS LOST	16	13	14	31	16	90	8.2
06 - 10 DAYS LOST	12	14	14	31	10	81	7.4
11 - 15 DAYS LOST	18	9	10	17	11	63	5.7
16 - 20 DAYS LOST	13	9	16	12	12	62	5.7
21 - 30 DAYS LOST	25	16	19	24	14	98	8.9
31 - 40 DAYS LOST	33	21	15	22	13	104	9.5
41 - 50 DAYS LOST	23	9	8	16	10	66	6.0
51 OR MORE DAYS LOST	110	64	80	92	69	415	37.8
DAYS LOST-UNSPECIFIED, 0	6	20	21	44	27	118	10.8
Total	254	175	197	289	182	1,097	100.0

5. Characteristics of The Injured Worker

5.1 Occupation of Injured Worker

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
OIL & GAS FIELD, MINING							
ROTARY WELL DRILLING	111	94	99	130	80	514	46.9
OIL & GAS, MINING-NEC	102	48	62	120	73	405	36.9
OTHER OCCUPATION	5	7	8	10	4	34	3.1
SUBTOTAL	218	149	169	260	157	953	86.9
TRANSPORT OPERATORS							
MOTORMEN & DINKEYMEN (NOT RAILWAY)	10	5	4	4	8	31	2.8
OTHER OCCUPATION	1	.	1	1	1	4	0.4
SUBTOTAL	11	5	5	5	9	35	3.2
ALL OTHER OCCUPATIONS, UNS	25	21	23	24	16	109	9.9
Total	254	175	197	289	182	1,097	100.0

5.2 Age of Injured Worker

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
15-19 YEARS	12	11	10	19	9	61	5.6
20-24 YEARS	54	37	40	73	42	246	22.4
25-34 YEARS	123	80	93	118	76	490	44.7
35-44 YEARS	51	37	46	71	43	248	22.6
45-54 YEARS	11	7	4	5	7	34	3.1
55-64 YEARS	3	2	3	3	4	15	1.4
65 YRS AND OVER	1	1	0.1
AGE-UNSPECIFIED	.	1	1	.	.	2	0.2
Total	254	175	197	289	182	1,097	100.0

5.3 Length of Time Employed

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
A. LESS THAN 1 MONTH	69	35	41	68	27	240	21.9
B. 1 MONTH TO < 6 MONTHS	66	47	45	84	34	276	25.2
C. 6 MONTHS TO < 1 YEAR	29	20	22	21	20	112	10.2
D. 1 YEAR OR MORE	37	39	31	40	25	172	15.7
E. TIME-UNSPECIFIED	53	34	58	76	76	297	27.1
Total	254	175	197	289	182	1,097	100.0

5.4 Gender of Injured Worker

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
MALE	252	174	193	283	179	1,081	98.5
GENDER-UNSPECIFIED	1	.	2	4	2	9	0.8
FEMALE	1	1	2	2	1	7	0.6
Total	254	175	197	289	182	1,097	100.0

6. Number of Employers that Received/Renewed a CoR in 1998

	Certified Employers	Cert. & Uncert. (# of Accounts)	% Certified
Sub-Sector # 4 Industry 09600-Drilling of Oil & Gas Wells	6	81	7.4%
UPSTREAM OIL & GAS SECTOR	119	7,205	1.7%

7. Cost of Claims, Payroll and Premiums

	Occurrence Year				
	1994	1995	1996	1997	1998
Transaction Year					
1994	\$1,728,495				
1995	\$1,596,958	\$1,453,568			
1996	\$1,200,746	\$949,650	\$1,551,483		
1997	\$605,171	\$472,062	\$1,541,537	\$2,265,519	
1998	\$608,373	\$838,001	\$992,438	\$2,336,716	\$1,785,525
Total Cost	\$5,739,744	\$3,713,281	\$4,085,458	\$4,602,234	\$1,785,525

Total Payroll	\$239,120,359	\$221,382,558	\$246,700,189	\$327,430,749	\$288,790,776
Total Premiums	\$18,767,342	\$11,932,658	\$10,261,045	\$13,643,945	\$8,108,202

The above costs of claims, payroll and premiums are for the five year period 1994 through 1998. The data is as at July, 1999.

The claim cost amount reflect only paid costs on claims which have occurred in the five year period. These paid cost are tracked by year of occurrence and year that the cost were transacted.

The payroll have been totaled for each year. The premiums is the total of employer's premiums paid for each year.

8. Occupational Fatalities

An occupational fatality is the death of a worker which results from a work-related incident or exposure. Alberta Labour classifies occupational fatalities into three general types: motor vehicle incident, workplace incident and occupational diseases. Each is described in detail below.

Motor Vehicle Incident

Motor vehicle incident typically involve highway vehicles operating on public roads in which the fatally injured worker was either the driver or a passenger. This category also includes fatalities involving air plane crashes, train crashes, helicopter crashes. etc.

Workplace Incident

Fatal workplace incidents consists of cases in which the worker dies at a work site, or as a result of injuries sustained at a work site. It is this type of fatality that Alberta Labour may be responsible for investigating.

Occupational Diseases

Occupational disease fatalities consist mostly of recognized occupational disease, that is, disease known to be primarily or exclusively work-related (e.g. asbestosis, black lung disease). Occupational diseases are frequently diagnosed many years after the initial or crucial exposure to the toxic substance, and in such cases it is very difficult to determine when the fatal exposure occurred. Thus, the occupational disease category, should not be interpreted to reflect present work site hazardous conditions or exposures.

Each year the Workers' Compensation Board (WCB) accepts some occupational fatality claims for compensation. Claims accepted in a particular year does not imply the fatalities occurred in that year.

Description of Drilling of Oil & Gas Wells Fatalities Accepted by the WCB Alberta 1992-1998

Year	Occupational Disease		Motor Vehicle incident		Workplace Incident		Total	
	N	%	N	%	N	%	N	%
1992	0	0.0	0	0.0	1	100.0	1	100
1993	0	0.0	0	0.0	0	0.0	0	100
1994	0	0.0	1	100.0	0	0	1	100
1995	0	0.0	0	0.0	2	100.0	2	100
1996	0	0.0	0	0.0	2	100.0	2	100
1997	0	0.0	1	33.3	2	66.7	3	100
1998	0	0.0	1	100.0	0	0.0	1	100
Total	0	0.0	3	30.0	7	70.0	10	100

9. OHS Investigated Occupational Fatalities: 1993-1998

YEAR:	1995	FILE:	0803
OCCUPATION:	Derrickman	AGE:	39
INDUSTRY:	Drilling of Oil & Gas Wells		
EXPERIENCE:	21 years		

DESCRIPTION: A worker was fatally injured as a result of a derrick collapse on a drilling rig at a well lease. The worker had just climbed to the crown of the derrick to assist with setting up the structure. the two front legs attached to the floor buckled while the two back legs attached to the stools on the drawworks skid bent and snapped off. The derrickman was still attached to a fall arrester at the crown. The worker succumbed to the serious injuries he received from the impact of the fall.

YEAR:	1995	FILE:	0822
OCCUPATION:	Floor Hand	AGE:	33
INDUSTRY:	Drilling of Oil and Gas Wells		
EXPERIENCE:	Unknown		

DESCRIPTION: The drilling crew was in the process of doing a drill stem test and had attempted to inflate the packers, but they would not inflate. The decision was made to rotate the drill string at an increased speed, for an additional 15-20 minutes. During this procedure the floor personnel had been instructed to 'clear the floor' which meant that workers were not be within a specific area of the rig floor.

The crew was approaching the end of a 12 hour shift, and the normal duties performed by the crew in the last hour of the shift is to clean the rig and have it ready for the next crew. The injured worker was washing the rig floor using a steam hose. The hose became tangled with the breakout tool cable and the rotating drill string and pulled the worker into the drill string, with the hose and cable being wrapped around the worker as the drill string rotated. The hose and cable continued to tighten as the pipe rotated, crushing the floor hand.

YEAR:	1996	FILE:	0845
OCCUPATION:	Floor hand - Oil Well Drilling	AGE:	25
INDUSTRY:	Drilling Oil & Gas Wells		
EXPERIENCE:	Unspecified		

DESCRIPTION: A crew was in the process of drilling a well. In the process of making a connection, adding a length of pipe to the drilling string, the hammer nut on the swivel caught a horizontal beam on the crown stand. This caused the bottom end of the pipe to whip toward the back of the rig floor. The floor hand was unable to move out of the way and was struck in the face and chest, and was thrown about 2.5 metres where his head contacted racked pipe. This resulted in fatal injuries to the floor hand.

YEAR:	1996	FILE:	0846
OCCUPATION:	Floor hand - Oil Well Drilling	AGE:	31
INDUSTRY:	Drilling Oil & Gas Wells		
EXPERIENCE:	287 hours, total rig experience, 72 hours as a floor hand		

DESCRIPTION: A crew was preparing a rig for a move at the time of the incident, by removing and storing pipe from the well. While raising a length of pipe so it could be uncoupled, the break-out tong of the

floor man caught on the pipe, rising along with it. The floor hand was caught by the safety cables and pinned against the structure of the rig, causing fatal injuries.

YEAR:	1997	FILE:	0862
OCCUPATION:	Floor Hand	AGE:	20
INDUSTRY:	Drilling of Oil and Gas Wells		
EXPERIENCE:	Less than one year		

DESCRIPTION: The drilling crew was in the process of tripping out drill pipe, when they came to a set of cross over subs. These subs are used to adapt parts of the drilling string which cannot otherwise be screwed together because of the difference in thread size or design. The crew attached the tongs to the collars and sub and applied torque to break open the joint between the two. The Leed tong (tongs are the large wrenches that are latched onto drill pipe or drill collars in order to make up "tighten" or break our "loosen" a joint or drill pipe or drill collars) latch lug jaw failed, broke off, and struck the worker in the head fatally injuring him.

YEAR:	1997	FILE:	0877
OCCUPATION:	Floorhand	AGE:	22
INDUSTRY:	Drilling of Oil and Gas Wells		
EXPERIENCE:			

DESCRIPTION: An oil rig crew was finishing the process of laying down an oil rig derrick on two bedtrucks in preparation for the rig move. The worker assisted a gin pole truck operator in rigging the A-leg section of a mast so a spreader bar could be removed and the A-leg lowered. The A-leg was secured to a lifting lug which was attached to a hook and winch line of a gin pole truck. The worker removed a pin that secured a spreader bar to the derrick and then climbed onto the derrick to remove the spreader bar. The worker polled the spreader bar off, lost his balance and fell forward under the suspended A-leg. Simultaneously, the lifting lug used in lowering and raising the A-legs failed. The A-leg fell on the worker, causing fatal injuries.

Appendix A: Terms, Definitions, and Formulas

Lost-Time Claim	A lost-time claim (LTC) is a claim for an occupational injury or disease which disables the worker beyond the day of injury. Included are claims for which wages compensation are paid, permanent disability claims, fatalities, and cases in which the injured worker is assigned light duties or other modified work.
Person-Years	Person-year estimates are calculated from wage and payroll data provided by account holders to the WCB. Alberta Labour uses these data to estimate. An average industry wage, and uses the average industry wage and employer payroll data to estimate person-years for each employer and each industry. One person-year is equivalent to one full-time worker working for one year, and can be assumed to equal 2,000 hours worked.
LTC Rate	<p>The lost-time claim (LTC) rate is calculated by dividing the number of lost-time claims by the person-year estimate, and multiplying the result by 100. The LTC rate represent the probability or risk of disabling injury or disease to a worker during a period of one year's work. Comparisons of LTC rates between industries, or between years, can be used to indicate increases, decreases, or differences in this risk.</p> $\text{LTC Rate} = \frac{\text{Number of LTCs} \times 100}{\text{Estimated Person-years}}$
Duration (Days Lost)	The duration of disability is the number of days following the injury or disease for which the worker was disabled, and unable to perform normal work duties. This information is obtained for this report from data on compensation days paid on each claim from WCB. Alberta Labour obtains these data on March 31 of the year following the claim year, and does not update the information, even though many injured workers continue to be disabled beyond this date. As a result, the duration information reported here underestimates the true impact of lost-time injury and disease.
Duration Rate	<p>The duration rate is calculated by dividing the number of work days lost (disability days) by the person-year estimate, and multiplying by 100. The result is expressed as "days lost per 100 person-years worked", and indicates, in part, the economic impact of occupational injury and disease. Duration rates are not recommended as reliable indicators of full economic cost. In addition, readers are warned that duration rates are highly unstable when based on only a few lost-time claims; it is recommended that the duration rate not be calculated based upon fewer than 30 lost-time claims.</p> $\text{Duration Rate} = \frac{\text{Disability Days} \times 100}{\text{Estimated Person-Years}}$
WCB Accepted Fatality	An occupational fatality is the death of a worker which result from a work-related incident or exposure and which has been accepted by the WCB for compensation. A fatality is counted in the year it is accepted.
NEC	Means "Not Elsewhere Classified"
UNS	Means "Unspecified"

Appendix B: Upstream Oil and Gas 1998 Industry Codes

Sub-Sector 1:

Industries:

Exploration

09200~Seismic Geophysical/Mineral Exploration
09201~Shot Hole Drilling

Sub-Sector 2:

Industries:

Oilfield Maintenance and Construction

06304~Oilfield Construction and/or Maintenance

Sub-Sector 3:

Industries:

Well Servicing With Service Rigs

09903~Well servicing with Service Rigs including Power Swivels

Sub-Sector 4:

Industries:

Drilling of Oil and gas Wells

09600~Drilling of Oil & Gas Wells

Sub-Sector 5:

Industries

Downhole & Other Oilfield Services

06305~Field Production Operators
06306~Vacuum Removal of Waste
09900~Mud Logging
09902~Pressure Cleaning Services
09904~Rathole Drilling and Rig Anchoring
09911~Oilfield Downhole Services
09915~Well Casing Services
09921~Servicing Christmas Trees On Oil Wells
09927~Liquid Waste Treatment & Disposal

Sub-Sector 6:

Industries:

Tar Sands

06600~Mining & Processing of Bituminous Sand
06601~Research/Development, Oil Sands and Heavy Oil Recovery

Sub-Sector 7:

Industries:

Oil & Gas Exploration/Development

06300~Oil and Gas Exploration & Development-Upstream Operations

Sub-Sector 8:

Industries:

Oilfield Trucking Services

50720~Oilfield Trucking Services